



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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TECH CENTER 1800/2333In re application of: Discher *et al.*

Application No.: 09/460,605

Group Art Unit: 1615

Filed: December 14, 1999

Examiner: G. Kishore

Title: POLYMERSOMES AND RELATED  
ENCAPSULATING MEMBRANES

Box Fee

Assistant Commissioner for Patents  
Washington, DC 20231AMENDMENT AND RESPONSE

This amendment and response is timely filed in response to the Office Action mailed July 30, 2002 and is accompanied by a request for a 1-month extension of time.

**In the Specification:**

Please replace the paragraph at page 4, lines 17-29 for the second time with the following rewritten paragraph:

Many semi- or partially-synthetic, amphiphilic molecules are also significantly larger (in molecular weight, volume, and linear dimension) than phospholipid amphiphiles, and have therefore been called "super-amphiphiles" (Cornelissen *et al.*, *Science* 280:1427 (1998)). Cornelissen *et al.* used polystyrene (PS) as a hydrophobic fraction in their series of non-synthetic, natural block copolymers designated PS40-b-(isocyano-L-alanine-L-alanine)<sub>y</sub>. For y = 10, but not y = 20 or 30, loop structures, referred to as small collapsed vesicles, having diameters ranging from tens of nanometers to several hundred, and a bilayer thickness of 16 nanometer were mentioned as existing under a single acidic buffer condition (0.2 mM Na-acetate buffer, pH 5.6). However, bilayer filaments and superhelical rods existed, without explanation, under the same solution conditions, thus making the stability of the collapsed vesicles, relative to the other microstructures, highly uncertain for the studied dipeptide-based copolymer. Furthermore, no demonstration of semi-permeability was reported, and reasons for apparent vesicle collapse were not given, further raising questions of vesicle stability.